Liqcreate Composite-X

An extremely rigid and high performance reinforced nano-micro composite resin for Stereolithography (SLA), Digital Light Processing (DLP) and Masked Stereolithography (LCD / MSLA). Perfect for rapid tooling, wind tunnel testing and industrial applications.

Product description

Liqcreate Composite-X is one of the stiffest and strongest material available in the market. With a flexural modulus over 9000 MPa and a flexural strength of 150 – 170 MPa it is superior to almost all photopolymer resins currently available. Liqcreate Composite-X is easy to use on all open SLA, DLP and MSLA 3D-printers in the range of 385 – 420nm. The material can be used after UV-post curing, or the properties can be boosted with a thermal cure. This material has features like excellent chemical resistance, high strength and high stiffness which makes it ideal for wind tunnel testing, fluid flow components, automotive and heavy duty industrial applications.

Key benefits

- High rigidity
- High strength
- Low odor
- Good chemical resistance
- Extremely low shrinkage

3D-Printer compatibility

- Miicraft 125
- Anycubic Series
- Phrozen Series
- Most open source 385 - 420nm SLA, DLP and MSLA 3D-printers

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Liqcreate Composite-X Technical Data

Liquid properties			
Appearance	Opaque white liquid	**E_c**	9.55 mJ/cm^2
Viscosity	1400 cps at 25°C	**D_p metric**	0.18 mm
Density	1.52 g/cm^3	**D_p imperial**	7.09 mils

Polymer properties			
Mechanical properties		**UV Curing 60 minutes at 60°C**	**Thermal curing 2 hours at 100°C**
Description	**ASTM Method**	**Metric**	**Metric**
Tensile Strength	D638M	50 - 75 MPa	70 - 85 MPa
Tensile Modulus	D638M	7.5 - 8.5 GPa	8.5 - 9.5 GPa
Elongation at break	D638M	1%	
Flexural Strength	D790M	140 - 150 MPa	150 - 170 MPa
Flexural modulus	D2240	7.5 - 8.5 GPa	8.5 - 9.5 GPa
IZOD Impact (notched)	D256A	19 J/m	18 J/m
Shore D Hardness	D2240	93	94
Water sorption	D570-98	0.67%	0.59%
Linear Shrinkage during printing	Internal method	<0.1%	
Linear Shrinkage during UV-curing	Internal method	0.5%	
Linear Shrinkage during thermal cure	Internal method	0.1%	
Compression strength	D695	155 MPa	160 MPa
Density solid	Internal method	1.62 g/cm^3	1.62 g/cm^3

Parts were post-cured in a Wicked Engineering Curebox for 60 minutes at 60°C prior to testing. Thermal cured parts were cured for 2 hours at 100°C in an conventional oven after being UV-curing. These values may vary and depend on individual machine processing and post-curing.